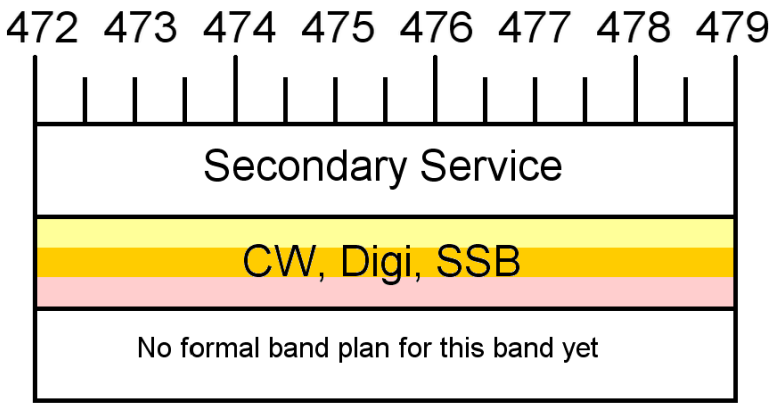
Wireless Institute of Australia

National Technical Advisory Committee

630 METRE BAND PLAN REPORT

An interim band plan has been adopted for the 630 metre band (472 - 479 kHz). It is based on current usage patterns in IARU Region I, and is to be presented formally at the Region I conference in Bulgaria, to be held in late September 2014.

The details incorporated into the band plans paper are as follows:



ACMA licence conditions for this band permit the use of any mode with a maximum bandwidth of 2.1 kHz.

There is as yet no formal plan for this band. In the interim, please note the following frequencies that are currently in use in Region I.

CW	472.500 kHz
WSPR	Set dial to 474.2 kHz USB (occupied bandwidth 475.6 - 475.8 kHz)
ROS	Set dial to 476 kHz USB (occupied bandwidth 474.4 - 474.6 kHz)
QRSS	Set dial to 476.175 kHz USB (occupied bandwidth 477.175 - 477.185 kHz). (Some activity also on 478.9 kHz)
WSJTX	Set dial to 477.0 kHz USB (occupied bandwidth 478.0 - 478.5 kHz)
Opera	Set dial to 477.0 kHz USB (occupied bandwidth 478.5 - 478.8 kHz)

Please refer to the Band Plans Update page on the WIA web site for more information on the band plan development for this band.

There is as yet no formal recommended frequency for SSB use. The LCD permits SSB in this band with a maximum occupied bandwidth of 2.1 kHz. However the frequencies that are already in common use for CW and digital modes make it impossible to run SSB on this band without causing interference to CW or digital operation. However it is the wish of the majority of 630m operators that some provision should be made for SSB.

There are three main alternative approaches:
Option 1. Time sharing: SSB stations would operate only at certain times, e.g. only during daylight. CW and digital stations would accept interference from SSB stations at those times.
Option 2. Frequency shifting between primary and secondary frequencies: Adopt an alternative set of frequencies for digital modes to move to when SSB activity is occurring.
Option 3. Minimise and tolerate certain level of interference. This could involve choosing an SSB frequency that would cause some conflict with CW or digital activity, but leave most activity unaffected.

Option I has the advantage of simplicity. For option I, an SSB frequency at the top of the band has been proposed (476.900 - 479.000 kHz).

Option 2 is more complex and is described in detail in the attached proposal by Ron Cook VK3AFW.

Option 3 would involve choosing a frequency that would clash with as little CW and digital activity as possible. For example, 476.000 kHz LSB (occupied bandwidth 473.600 - 475.700 kHz) as suggested by VK4WA. This frequency would only affect WSPR activity and leave other digital operation unaffected.

A variation to this option would be: suppressed carrier frequency 475.9 kHz, occupied bandwidth 473.5 - 475.6 kHz. This would avoid clashing with WSPR and would overlap only the upper end of the CW range.

I would appreciate comments and suggestions to the TAC email address on several issues.

In general, do you prefer Option 1, 2 or 3, with maybe some slight variation?
Do you feel that SSB activity should be standardised on LSB? Or should it be USB to maintain consistency with the digital modes?

John VK3KM

Band Plan comments by Ron Cook VK3AFW (as published in September AR Magazine):

Any band plan needs to meet at least three criteria. Firstly it needs to allocate the available spectrum so that users of different modes can operate without significant interference with each other and secondly to not be so prescriptive as to prevent reasonable experimentation and on-air testing of new modes. Thirdly it must be acceptable to the overwhelming majority of band users.

While it is eminently sensible to have a plan that is compatible with adjacent regions it is not sound policy making to adopt another regions plan without a thorough examination of local needs and conditions.

Many modes are in use at present on 630 m in the SE of Australia and there have been only one or two cases of minor interference which were quickly resolved. To claim that there is a serious situation demanding immediate resolution is an over reaction.

The present Australian users have expressed a strong desire to allow for wide band modes, something the ACMA allows us to do. A question on the Yahoo 630 m users group asking if bandwidths greater than 500 Hz should be banned came back with many writers saying they wanted to be able to use modes up to the maximum 2.1 kHz. No one supported a ban on a broad band transmission.

Region 1 has no allowance for this in their interim 630 m band plan which is being promoted by a couple of people as what we should adopt here. Yet, clearly many amateurs would not accept the Region 1 proposal in its entirety.

Can a compromise be achieved? Yes, of course. Here is one proposal which of course may be improved upon.

This version of the band plan starts with the Region 1 proposal and amends it to meet the expressed desire for a wide band segment.

It keeps the same frequencies for WSPR (a basic necessity) and for CW (but with no mandated operating frequency) but has one 2.1 kHz assignment for broad band modes such as narrow SSB, DV, EasyPal, etc.

The broadband channel best fits at the top of the band and overlaps some of the Region 1 nominated frequencies for other modes.

There are two solutions, both compromises.

Timeshare Option.

This proposal is for the broadband modes to have priority during daylight hours and for the Region1 allocations to apply in the dark hours. For Australia taking into account the East West differences, 7 AM EAST (2100 UTC) to 7 PM EAST (0900 UTC) is suggested. An allocation for CW rather than one mandated frequency is given and includes provision of CW beacons. These may be narrow FSK and slow speed.

472.0 – 474.1 kHz: CW
474.1 – 476.9 kHz: Narrow band (digital)modes
476.9 – 479.0 kHz: Broad band modes (<2.1 kHz). Has priority in daylight, defined as 2100 UTC to 0900 UTC.

Notes:
1 CW International calling frequency 472.500 kHz
2 473.0 kHz to 474.1 kHz CW beacon sub-band, 100 Hz spacing
3 WSPR Set dial to 474.2 kHz USB (occupied bandwidth 475.6 - 475.8 kHz)
4 ROS Set dial to 476 kHz USB

5 QRSS 476.175, 478.900 kHz
6 WSJTX Set dial to 477.0 kHz USB (occupied bandwidth 478.0 - 478.5 kHz)
7 Opera Set dial to 477.0 kHz USB (occupied bandwidth 478.5 - 478.8 kHz

This proposal has the disadvantage that there is no protection for the digital modes other than WSPR during daylight when some operators might want to use modes other than WSPR but it probably meets most of the expressed needs for the broadband community..

Primary & Secondary Option

This proposal provides for 24 hour interference free operation of all modes based on Primary and Secondary mode allocations. The Primary mode has "right of way" at all times and secondary modes must accept any interference if both operate at the same time.

472.0 – 474.1 kHz: Primary: CW
474.1 – 476.9 kHz: Primary: Narrow band (digital) modes
476.9 – 479.0 kHz: Primary: Broad band modes (<2.1 kHz). Secondary: digital modes.

Notes for primary modes:
1 CW International calling frequency 472.500 kHz
2 473.0 kHz to 474.1 kHz CW beacon sub-band, 100 Hz spacing
3 WSPR Set dial to 474.2 kHz USB (occupied bandwidth 475.6 - 475.8 kHz)
4 ROS, use dial set to 473.0 kHz USB (occupied bandwidth 474.4 - 474.6 kHz)
5 QRSS, use dial set to 473.2 kHz USB (occupied bandwidth 474.2 - 474.3 kHz)
6 WSJTX, use dial frequency of 474.0 kHz and USB (occupied bandwidth 475.0 – 475.5 kHz).
7 Opera, use dial to 473.2 kHz USB (occupied bandwidth 474.7 - 474.9 kHz)

Notes for secondary modes:
1 WSPR Set dial to 474.2 kHz USB (occupied bandwidth 475.6 - 475.8 kHz)
2 ROS Set dial to 476 kHz USB
3 QRSS 476.175, 478.900 kHz
4 WSJTX Set dial to 477.0 kHz USB (occupied bandwidth 478.0 - 478.5 kHz)
5 Opera Set dial to 477.0 kHz USB (occupied bandwidth 478.5 - 478.8 kHz

Notes for both proposals.

1 Broadband modes up to 2.1 kHz bandwidth includes analog and digital modes such as narrow SSB, Digital Voice, EasyPal etc.
2 Interference to other operators to be prevented by careful frequency selection of modes not listed and suppression of signals out of the necessary bandwidth. Frequencies other than those suggested here may be used if no interference to others occurs.
3 No 630 m operation is permitted in the zone defined as follows:
2000 km radial distance from the Timor NDB located at latitude 10° 37' 21" S, longitude 126° 02' 00" E in the Timor Sea; and 1000 km radial distance from the Exmouth NDB located at latitude 21° 26' 07" S, longitude 114° 03' 57" E off the coast near Exmouth, Western Australia. (This NDB is no longer listed on the ACMA register and the restriction should be lifted).

EOE
VK3AFW
30 July 2014